

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of: Thomas J. Kennedy, III et al

Serial No.: Not yet assigned (Continuation of 09/993,422)

Filing Date: Herewith

Examiner: Not yet assigned

Group Art Unit: Not yet assigned

For: **MULTI-LAYER GOLF BALL**

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Before acting on the merits of this case, please amend the above-referenced application as follows:

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. 1.8a)

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

XX deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Date: 2/13/02

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Leslie A. Tzivani
Leslie A. Tzivani

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IN THE SPECIFICATION

Please replace the following paragraph beginning on page 1, line 3, with the following rewritten paragraph:

This application is a continuation of U.S. Application serial No. 09/993,422, filed on November 5, 2001, which is a continuation-in-part of U.S. Application Serial No. 09/783,484 filed on February 14, 2001, which is a continuation of U.S. Application Serial No. 09/040,456 filed on March 18, 1998, now U.S. Patent No. 6,213,894, which is a continuation-in-part of U.S. Application Serial No. 08/631,613 filed on April 10, 1996, now U.S. Patent No. 5,803,831, which is a continuation-in-part of U.S. Application Serial No. 08/591,046 filed on January 25, 1996, now abandoned, and a continuation-in-part of Application Serial No. 08/542,793 filed on October 13, 1995, now abandoned, which in turn is a continuation-in-part of U.S. Application 08/070,510 filed June 1, 1993, now abandoned. This application is also a continuation-in-part of U.S. Application Serial No. 09/411,690 filed on October 1, 1999, which is a continuation-in-part of U.S. Application Serial No. 09/040,798 filed on March 18, 1998.

IN THE CLAIMS

Please cancel claims 1 to 26 in the application and substitute new claims 27 to 53.

27.(NEW) A method of producing a golf ball having a core, an inner cover layer disposed about the core, and an outer cover layer disposed on the inner cover layer, the method comprising the steps of:

- selecting a first material for forming a golf ball core;
- forming the golf ball core from the first material;
- selecting a second material for use in forming an inner cover layer, the second material being thermoplastic and exhibiting a Shore D hardness of at least 60;
- forming an inner cover layer from the second material about the golf ball core;

selecting a third material for use in forming an outer cover layer, the third material exhibiting a Shore D hardness of no more than about 55;
forming an outer cover layer from the third material about the inner cover layer;
wherein the selection of the first material, second material, and third material and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a coefficient of restitution of at least 0.750.

28. (NEW) A method according to claim 27, wherein the third material is selected and formed about the inner cover layer such that it exhibits a Shore D hardness of no more than 50.

29. (NEW) A method according to claim 27, wherein material comprising ionomer is selected for at least one of the second material and the third material.

30. (NEW) A method according to claim 29 wherein the second material has a flex modulus of greater than 30,000 psi.

31. (NEW) A method according to claim 27, wherein the third material is selected and formed about the inner cover layer such that it exhibits a Shore D hardness of about 55.

32. (NEW) A method of producing a golf ball having a core, an inner cover layer disposed about the core and an outer cover layer disposed on the inner cover layer, comprising the steps of:

selecting a first material for forming a golf ball core;

forming the golf ball core from the first material;

selecting a second material for use in forming an inner cover layer, the second material including at least 75 weight % of at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof;

forming an inner cover layer from the second material about the golf ball core;
selecting a third material for use in forming an outer cover layer, the third material exhibiting a Shore D hardness of no more than 53;
forming an outer cover layer from the third material about the inner cover layer;
wherein the selection of the first, second and third materials and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a coefficient of restitution of at least 0.750.

33. (NEW) A method according to claim 32, wherein the core is compression or injection molded from a slug or ribbon of uncured or lightly cured elastomer composition comprising a high cis content polybutadiene and a metal salt of an alpha, beta, ethylenically unsaturated carboxylic acid.

34. (NEW) A method according to claim 32, wherein the golf ball is coated with a durable, abrasion-resistant, non-yellowing finish coat.

35. (NEW) A method according to claim 32, wherein the core is wound, solid or liquid filled.

36. (NEW) A method according to claim 32, wherein the inner cover layer is about 0.01 to about 0.10 inches in thickness and the outer cover layer is from about 0.01 to about 0.10 inches in thickness.

37. (NEW) A method of producing a golf ball having a core, an inner cover layer disposed about the core and an outer cover layer disposed on the inner cover layer, comprising the steps of:

selecting a first material for forming a golf ball core;
forming the golf ball core from the first material;

selecting a second material for use in forming an inner cover layer, the second material being thermoplastic and exhibiting a Shore D hardness of at least 60;
forming an inner cover layer from the second material about the golf ball core;
selecting a third material for use in forming an outer cover layer, the third material exhibiting a flex modulus of from about 1,000 to about 10,000 psi;
forming an outer cover layer from the third material about the inner cover layer;
wherein the selection of the first, second and third materials and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a coefficient of restitution of at least 0.750.

38. (NEW) A method according to claim 37, wherein the second material exhibits a flex modulus of at least 30,000 psi.

39. (NEW) A method according to claim 37, wherein the core is compression or injection molded from a slug or ribbon of uncured or lightly cured elastomer composition comprising a high cis content polybutadiene and a metal salt of an alpha, beta, ethylenically unsaturated carboxylic acid.

40. (NEW) A method according to claim 39, wherein a free radical initiator is mixed with the core composition to promote cross-linking.

41. (NEW) A method according to claim 37, wherein the golf ball is coated with a durable, abrasion-resistant, non-yellowing finish coat.

42. (NEW) A method according to claim 37, wherein the inner cover layer is formed via injection molding at about 380°F to 450°F into two hemispherical shells which are then positioned around the core in a mold having the desired inner cover thickness and subjected to compression molding at 200°F to 330°F for about 2 to 10 minutes, followed by cooling to fuse the shells together to form a unitary intermediate ball.

43. (NEW) A method according to claim 37, wherein the inner cover layer is injected directly around the core placed at the center of the intermediate ball mold for a period of time in a mold temperature of from about 50°F to 100°F.

44. (NEW) A method according to claim 37, wherein the core is wound, solid or liquid filled.

45. (NEW) A method according to claim 37, wherein the inner cover layer is about 0.01 to about 0.10 inches in thickness and the outer cover layer is from about 0.01 to about 0.10 inches in thickness.

46. (NEW) A golf ball comprising:

a core;

an inner cover layer which has a Shore D hardness of at least 60 as measured on the curved surface thereof and is formed from a composition which includes at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof; and

an outer cover layer formed over the inner cover layer, the outer cover layer having a Shore D hardness of no more than 55 as measured on the curved surface thereof, the golf ball having a spin factor of at least 5.

47. (NEW) The golf ball according to claim 46, wherein the ball has a spin factor of at least 8.

48. (NEW) A golf ball according to claim 46, wherein the outer cover layer has a thickness of from about 0.01 to about 0.10 inches.

49. (NEW) A golf ball according to claim 46, wherein the inner cover layer has a thickness of from about 0.01 to about 0.10 inches.

50. (NEW) A golf ball according to claim 46, wherein the inner cover layer is formed from a composition which includes at least one material selected from the group consisting of a high acid ionomer, a low acid ionomer, a blend of high acid and low acid ionomers, a non-ionic thermoplastic, and combinations thereof.

51. (NEW) A golf ball according to claim 46, wherein the outer cover layer has a flex modulus of from about 1,000 to about 10,000 psi.

52. (NEW) A golf ball according to claim 46, wherein the inner cover layer has a flex modulus of at least 30,000 psi.

53. (NEW) A golf ball according to claim 46, wherein the golf ball has a coefficient of restitution of at least 0.750.

REMARKS

Attached hereto is a marked-up version of the changes made to the application by this Preliminary Amendment.

The specification has been amended to update the priority claim and to correct a typographical error in the "Cross References to Related Applications" section. New claims 27 to 53 have been presented. Applicants respectfully submit that no new matter has been added.

Respectfully submitted,

THOMAS J. KENNEDY, III et al.

Date: February 13, 2002
Customer No. 24492
Phone: (413) 322-2937

By Michelle Bugbee
Michelle Bugbee, Reg. No. 42,370
Spalding Sports Worldwide, Inc.
425 Meadow Street
P.O. Box 901
Chicopee, MA 01021-0901

MB/lat
Enc.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The paragraph beginning on page 1, line 3 has been amended as follows:

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- selecting a first material for forming a golf ball core;
- forming the golf ball core from the first material;
- selecting a second material for use in forming an inner cover layer, the second material being thermoplastic and exhibiting a Shore D hardness of at least 60;
- forming an inner cover layer from the second material about the golf ball core;
- selecting a third material for use in forming an outer cover layer, the third material exhibiting a Shore D hardness of no more than about 55;

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forming an outer cover layer from the third material about the inner cover layer;
 wherein the selection of the first material, second material, and third material and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a coefficient of restitution of at least 0.750.

28. (NEW) A method according to claim 27, wherein the third material is selected and formed about the inner cover layer such that it exhibits a Shore D hardness of no more than 50.

29. (NEW) A method according to claim 27, wherein material comprising ionomer is selected for at least one of the second material and the third material.

30. (NEW) A method according to claim 29 wherein the second material has a flex modulus of greater than 30,000 psi.

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selecting a first material for forming a golf ball core;

forming the golf ball core from the first material;

selecting a second material for use in forming an inner cover layer, the second material including at least 75 weight % of at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof;

forming an inner cover layer from the second material about the golf ball core;

selecting a third material for use in forming an outer cover layer, the third material exhibiting a Shore D hardness of no more than 53;

forming an outer cover layer from the third material about the inner cover layer;

wherein the selection of the first, second and third materials and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a coefficient of restitution of at least 0.750.

33. (NEW) A method according to claim 32, wherein the core is compression or injection molded from a slug or ribbon of uncured or lightly cured elastomer composition comprising a high cis content polybutadiene and a metal salt of an alpha, beta, ethylenically unsaturated carboxylic acid.

34. (NEW) A method according to claim 32, wherein the golf ball is coated with a durable, abrasion-resistant, non-yellowing finish coat.

35. (NEW) A method according to claim 32, wherein the core is wound, solid or liquid filled.

36. (NEW) A method according to claim 32, wherein the inner cover layer is about 0.01 to about 0.10 inches in thickness and the outer cover layer is from about 0.01 to about 0.10 inches in thickness.

37. (NEW) A method of producing a golf ball having a core, an inner cover layer disposed about the core and an outer cover layer disposed on the inner cover layer, comprising the steps of:

- selecting a first material for forming a golf ball core;
- forming the golf ball core from the first material;
- selecting a second material for use in forming an inner cover layer, the second material being thermoplastic and exhibiting a Shore D hardness of at least 60;
- forming an inner cover layer from the second material about the golf ball core;
- selecting a third material for use in forming an outer cover layer, the third material exhibiting a flex modulus of from about 1,000 to about 10,000 psi;
- forming an outer cover layer from the third material about the inner cover layer;

wherein the selection of the first, second and third materials and the forming of the core, inner cover layer and outer cover layer are performed such that the golf ball exhibits a coefficient of restitution of at least 0.750.

38. (NEW) A method according to claim 37, wherein the second material exhibits a flex modulus of at least 30,000 psi.

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43. (NEW) A method according to claim 37, wherein the inner cover layer is injected directly around the core placed at the center of the intermediate ball mold for a period of time in a mold temperature of from about 50°F to 100°F.

44. (NEW) A method according to claim 37, wherein the core is wound, solid or liquid filled.

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45. (NEW) A method according to claim 37, wherein the inner cover layer is about 0.01 to about 0.10 inches in thickness and the outer cover layer is from about 0.01 to about 0.10 inches in thickness.

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a core;

an inner cover layer which has a Shore D hardness of at least 60 as measured on the curved surface thereof and is formed from a composition which includes at least one material selected from the group consisting of polyphenylene ether/ionomer blends, ionomers, polyamides, polyurethanes, polyester elastomers, polyester amides, metallocene catalyzed polyolefins, and blends thereof; and

an outer cover layer formed over the inner cover layer, the outer cover layer having a Shore D hardness of no more than 55 as measured on the curved surface thereof, the golf ball having a spin factor of at least 5.

47. (NEW) The golf ball according to claim 46, wherein the ball has a spin factor of at least 8.

48. (NEW) A golf ball according to claim 46, wherein the outer cover layer has a thickness of from about 0.01 to about 0.10 inches.

49. (NEW) A golf ball according to claim 46, wherein the inner cover layer has a thickness of from about 0.01 to about 0.10 inches.

50. (NEW) A golf ball according to claim 46, wherein the inner cover layer is formed from a composition which includes at least one material selected from the group consisting of a high acid ionomer, a low acid ionomer, a blend of high acid and low acid ionomers, a non-ionic thermoplastic, and combinations thereof.

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52. (NEW) A golf ball according to claim 46, wherein the inner cover layer has a flex modulus of at least 30,000 psi.

53. (NEW) A golf ball according to claim 46, wherein the golf ball has a coefficient of restitution of at least 0.750.

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